

CLAIMS SUMMARY

1. (Cancelled)
2. (Currently Amended) A lead according to Claim +7, wherein the fixing element includes at least one of inflatable balloon, nitinol, tines, and sheath shape.
3. (Currently Amended) A lead according to Claim +7, wherein the outlets are at one or more of the tip of the distal end, the adjacent to the tip of the distal end and on the electrode.
- 4.-6 (Cancelled).
7. (Previously Presented) A stimulation lead to lie along and stimulate tissue comprising:
 - a sheath to be placed in the intrathecal space having a distal and proximal end;
 - at least one electrode along the exterior of the distal end of the sheath to lie along tissue;
 - a fixing element on the sheath configured to fix the electrodes in place along the tissue;
 - a passage extending from an inlet at the proximal end of the sheath to one or more outlets at the distal end of the sheath;
 - a wire extension extending from a distal portion of the sheath to the proximal end of the sheath;
 - an additional electrode on the wire extension and spaced from the at least three electrodes spaced along the exterior of the sheath; and
 - the additional electrode having a surface area length on the sheath greater than the surface area of each of the at least three electrodes.
8. (Original) A lead according to Claim 7, wherein the additional electrode is at least twice the surface area of the at least three electrodes.
9. (Original) A lead according to Claim 7, wherein the additional electrode is spaced from the at least three electrodes by at least ten millimeters.
10. (Cancelled).

11. (Previously Presented) A lead according to Claim 7, including at least three electrodes spaced along the exterior of the sheath, and the electrodes each extend no greater than 270 degrees about the exterior of the sheath.

12. (Previously Presented) A lead according to Claim 7, including at least three electrodes spaced along the exterior of the sheath, and the electrodes each extend no greater than 90 degrees about the exterior of the sheath.

13. (Previously Presented) A lead according to Claim 7, including at least three electrodes spaced along the exterior of the sheath, and the electrodes each extend no greater than 60 degrees about the exterior of the sheath.

14. (Currently Amended) A method of neurostimulation using a catheter electrode assembly including a sheath having a distal and proximal end, at least three in-line electrodes spaced along the exterior of the distal end of the sheath to lie in-line along the spinal cord, and a fixing element configured to fix the electrodes in place along the spinal cord; the method comprising:

inserting a catheter electrode assembly, whose electrodes each extend no greater than 60 degrees about the exterior of the sheath, into the intrathecal space and positioning adjacent a spinal cord where it enters the spinal cord;

fixing the electrodes at a desired location along the spinal cord using the fixing element; and

providing stimulation pulses to a selected pair of electrodes; and
wherein the catheter includes an optical channel with one or more ports at a distal end of the catheter and including providing stimulating pulse of photonic energy to the optical channel in combination with or in lieu of the pulses to the electrodes..

15. (Original) The method according to Claim 14, wherein the catheter includes a passage with one or more ports at a distal end of the catheter and including administering a drug through the passage.

16.-24 (Cancelled).